Universiti Teknologi MARA

SHIFT SCHEDULING WITH THE GOAL PROGRAMMING APPROACH IN FAST-FOOD RESTAURANT: MCDONALD'S IN KELANTAN

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

In order to preserve its credibility among customers and maintain its dominance among other competitors, a major fast-food restaurant chain such as McDonald's restaurant must work well. To ensure the workers give the best service and productions for the restaurant, a fair and balance shift schedule of workers needs to be generated. Thus, this study proposed a fair and efficient schedule of workforce at McDonald's restaurant in Kelantan. Furthermore, this study is conducted to use the goal programming method and LINGO software in developing the best schedule for the workers over a 28-day schedule. As the 0-1 Goal Programming approach has been addressed in this study, five hard constraints and three soft constraints are determined respectively. In consequence, the allocation of workers' shifts for 28 days are optimized and the balance of schedule is proven better than the manual method. The main goal for this study which required the same total workload for each worker is achieved. However, the other two goals are not fully satisfied but do not give a big impact to the workers due to 18-hours operation and the rotation of schedule among workers. In conclusion, the generated schedule pattern is proven to give a better schedule in terms of getting the same total number of shifts for each worker and each worker is given the same total number of off days.

Keywords: Goal programming; LINGO software; Hard constraints; Soft constraints; Cyclic schedule; Optimization.

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